

## Nanyang Girls' High School – Redox – Word Search

N M Q M T N Z R H N Z N M B V M X N  
 E E L E C T R O L Y S I S X J K O D  
 O W H F M M V Z R D F R T V T I M M  
 N N Y B V A L I N C Q P N L T N R M  
 M G D G R W G E T N A O Y A B N I J  
 C M R F R O V N N A I E N R N P R K  
 R M O T Z E M N E T M O S R E B O V  
 L C G L S T N I A S I I E I L D N X  
 L C E R H G R D N T I P N Q U P O E  
 D Y N Q K X I L R E P U T C X M T X  
 B S Y L W X Y O H O R K M J B A H Z  
 J T K N O Y P Z C T P K N N M K R K  
 N E T D K O R E D U C T I O N F E X  
 C I M C R C B J F L U O R I N E E B  
 J N N P M H V N M P Q H T C Z T P R  
 N E S Q C V R B L D C Z T Y G Z M C  
 V I R E A C T I V I T Y S E R I E S  
 D N Y M P P R H D Q K V J F I V E L

### Clues:

- 1)  $2\text{Fe}(s) + 3\text{Cl}_2(g) \rightarrow 2\text{FeCl}_3(s)$  During this chemical reaction, the ..... state of iron has increased.
- 2) ..... is the strongest oxidising agent in the Periodic Table.
- 3) ..... is a natural antioxidant found in fresh fruit and vegetables.
- 4)  $\text{Fe}_2\text{O}_3(s) + 2\text{Al}(s) \rightarrow \text{Al}_2\text{O}_3(s) + 2\text{Fe}(s)$  During this chemical reaction, the ..... has been reduced.
- 5) The ..... allows chemists to predict which metal can displace another metal from its compound.
- 6) The equations:  $\text{Al}^{3+}(l) + 3e^- \rightarrow \text{Al}(l)$  and  $2\text{O}^{2-}(l) - 4e^- \rightarrow \text{O}_2(g)$  represent the ..... of aluminium oxide.
- 7) The metallic element ..... can reduce aluminium, but cannot reduce calcium.
- 8)  $2\text{AgNO}_3(aq) + \text{Cu}(s) \rightarrow \text{Cu}(\text{NO}_3)_2(aq) + 2\text{Ag}(s)$  During this chemical reaction, the ..... has been oxidised.
- 9) In  $\text{HNO}_2$ , the oxidation state of the nitrogen is (+ / -) .....
- 10) With the exception of francium, ..... is the strongest reducing agent in the Periodic Table.
- 11) During a ..... reaction, the same chemical element is both oxidised and reduced.
- 12) In  $\text{KIO}_4$ , the oxidation state of the iodine is (+ / -) .....
- 13) When straight hair is given a permanent wave, the amino acid ..... is firstly reduced, and then oxidised.
- 14) During a ..... reaction, one chemical element is oxidised while another chemical element is reduced.
- 15)  $5\text{Fe}^{2+}(aq) + \text{MnO}_4^-(aq) + 8\text{H}^+(aq) \rightarrow 5\text{Fe}^{3+}(aq) + \text{Mn}^{2+}(aq) + 4\text{H}_2\text{O}(l)$  During this chemical reaction, the oxidation state of the manganese has (increased / decreased) by .....
- 16) ..... is the gain of electrons.
- 17)  $\text{Cl}_2(aq) + 2\text{NaBr}(aq) \rightarrow \text{Br}_2(aq) + 2\text{NaCl}(aq)$  During this chemical reaction, the ..... has been oxidised.
- 18) In the following list of compounds, only ..... has an oxidation state of +1:  $\text{MgF}_2$ ,  $\text{H}_2\text{O}$ ,  $\text{AlCl}_3$ ,  $\text{CO}_2$ ,  $\text{CuSO}_4$ .
- 19) The element ..... takes its name from the Greek word for *new* and cannot be oxidised or reduced.
- 20) When acidified, the .....(VI) ion (formula  $\text{Cr}_2\text{O}_7^{2-}$ ) is a versatile oxidising agent.

- Scan the QR code below for the answers to this assignment.



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